

WHAT IS CLAIMED IS:

1. A full coverage area spray nozzle comprising an oscillation chamber having an upstream end plate and a downstream end plate, an inlet aperture  $d_1$  in said upstream end plate coupled to a source of pressurized liquid to be sprayed on said area and issuing a jet of liquid into said oscillation chamber, an outlet aperture  $d_2$  at said downstream end for issuing a jet of said pressurized liquid to ambient, the walls of said oscillation chamber being defined by a line revolved about an axial line passing through said inlet aperture and said outlet aperture  $d_2$ , said end plates have a diameter  $D$  and the distance between said inlet and outlet apertures is  $L$  and ratio  $L/D$  determines the spray pattern and is adapted to support a basic toroid flow pattern that remains captive within the confines of said oscillation chamber, said toroid spinning about its cross-sectional axis and being supplied energy from the jet of liquid issued into said oscillation chamber, said toroidal flow pattern having diametrically opposed cross-sections which alternate in size to cause the jet to move in radial paths and also in tangential direction and thereby choose a different radial path at each sweep, whereby there is a random sweeping of the jet issuing from said outlet aperture over said area.

2. The nozzle defined in claim 1 wherein said downstream end plate is dome shaped.

3. The nozzle defined in claim 1 wherein said downstream end plate is dimple shaped.

4. The nozzle defined in claim 1 wherein said downstream end plate is flat shaped.

5. The nozzle defined in claim 1 wherein said apertures  $d_1$  and  $d_2$  have sharp edges.

6. The nozzle defined in claim 1 wherein the ratio  $L/D$  is adjustable.

7. The nozzle defined in claim 1 wherein the distance  $L$  between said apertures  $d_1$  and  $d_2$  is adjustable.